

CLAIMS

1. Fixing device, comprising a surgical cable having a first and a second free end
5 and at least three fixing plates positioned in a stack as a top plate, a middle
plate and a bottom plate, leaving a gap between two adjacent plates, each
fixing plate having a ring surrounding a central hole, the rings having an inner
edge adjacent to the hole and an outer edge along a circumference of the
fixing plate, wherein the holes in the stacked position at least partly overlap
10 each other thus forming a central hole in the stack, and wherein at least one
working end of the cable follows
(1) a first continuous trajectory starting from outside the stack running
consecutively
(a) underneath the stack along the ring of the bottom plate from its outer edge
15 to its inner edge,
(b) through the central hole along the inner edge of the rings of the bottom
plate, the middle plate and the top plate respectively to a position above and
outside the stack,
(c) over the ring of the top plate from its inner edge to its outer edge,
20 (d) along the outer edges of (I) the rings of the top plate, (II) of the top and the
middle plate or (III) of the top, the middle and the bottom plate to a position, in
case (I), at the level of the gap between the top and the middle plate, in case
(II), at the level of the gap between the middle and the bottom plate and in
case (III), below the stack,
25 (2) a second continuous trajectory, comprising in non-prescribed order and
directions at least a section (e) through the gap between the top and the
middle plate and a section (f) through the gap between the middle and the
bottom plate, the second trajectory starting in case (I) with section (e), in case
(II) with section (f) and in case (III) with a section (g) running along the bottom
30 side of the ring of the bottom plate the second trajectory further comprising
one or more connection sections, running through at least a part of the central
hole or outside the outer edge of one or more of the rings, to make the
trajectory continuous.
2. Fixing device according to claim 1 wherein the second trajectory ends with a
35 last section being one of the sections (e) or (f).

3. Fixing device according to claim 2, wherein the cable in the last section runs through the corresponding gap from the inner edge to the outer edge of the rings adjacent to that gap bringing the free end from the central hole to outside the stack.
4. Fixing device according to any one of claims 1-3, wherein the first trajectory runs in the order (a), (b), (c), (d).
5. Fixing device according to claim 4, wherein the second trajectory further comprises a section (h) running over the topside of the ring of the top plate.
6. Fixing device according to any one of claims 1-7, wherein the other free end of the cable also follows one of the trajectories defined in any one of claims 1 to 5.
7. Fixing device according to claim 1-7, wherein the other free end (530, 630) is fixed to a tensioning device that is connected to the fixing plates.
8. Fixing device according to any one of claims 1 - 7, wherein in one of the rings adjacent to a gap in its surface facing the gap a continuous groove is present running between the outer edge and the inner edge of said ring and in the other ring adjacent to the gap in its surface facing the gap a ridge is present matching with said groove.
9. Fixing device according to claim 8 wherein the groove and matching ridge are present in the plates through which the last part of the second trajectory runs.
10. Method for tying together objects, in particular for fixing bone parts comprising the steps of applying a fixing device according to claims 1 to 9 around the bone parts (17, 417) to be fixed, followed by drawing the free ends (28, 428, 30, 430) of the cable to tension the cable around the bone parts to the tension required to fix the bone parts.
11. Method according to claim 10, wherein a bar (14, 414) is inserted between the fixing plates (2, 402, 4, 404) before the cable is tensioned and removed after the cable has been tensioned.
12. Method for tying together objects, in particular for fixing bone parts comprising the steps of applying a fixing device according to claim 7 around the bone parts to be fixed, followed by drawing said one end (528, 628) of the cable to tension the cable around the bone and then tensioning the cable to the tension required to fix the bone parts by means of the tensioning device (536, 646).
13. Set of at least three fixing plates, each fixing plate having a ring surrounding a central hole, the rings having an inner edge adjacent to the hole and an outer edge along a circumference of the fixing plate, and a surgical cable fitted for

constructing a fixing device according to any of claims 1 to 9.

14. Fixing plate, having a ring surrounding a central hole, the ring having an inner edge adjacent to the hole and an outer edge along a circumference of the fixing plate, prepared for application in a fixing device according to any of
5 claims 1 to 9.
15. Fixing plate, having a ring surrounding a central hole, the ring having an inner edge adjacent to the hole and an outer edge along a circumference of the fixing plate, prepared for application in the method of any of claims 10-12.
16. Surgical cable prepared for application in a -fixing device according to any of
10 claims 1 to 9.
17. Surgical cable prepared for application in the method of any of claims 10-12.
18. Set of at least three fixing plates, each fixing plate having a ring surrounding a central hole, the rings having an inner edge adjacent to the hole and an outer edge along a circumference of the fixing plate, and a surgical cable prepared
15 for application in the method of any of claims 10-12.
19. Set of two fixing plates, each fixing plate having a ring surrounding a central hole, the rings having an inner edge adjacent to the hole and an outer edge along a circumference of the fixing plate, in the surface of the ring of one plate a continuous groove being present running between the outer edge and the
20 inner edge of said ring and in the surface of the ring of the other plate a ridge being present matching with said groove such that in a stacked position of the two rings the ridge fits in the groove.
20. Set of tree fixing plates, each fixing plate having a ring surrounding a central hole, the rings having an inner edge adjacent to the hole and an outer edge
25 along a circumference of the fixing plate, in the surface of both sides of the ring of a first of the plates a groove or a ridge being present running between the outer edge and the inner edge of said ring and in the surface of at least one side of a second of the three rings a groove or ridge matching with the ridge or groove on one side of the first plate is present and in the surface of at
30 least one side of a third of the three rings a groove or ridge matching with the ridge or groove on then other side of the first plate is present, such that in a stacked position of the three rings said ridges fit in said grooves.